



SAFIT



Southwest Association of Freshwater Invertebrate Taxonomists



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What is SAFIT?

- Nonprofit public benefit corporation.
- Primary mission is to promote standardized freshwater invertebrate taxonomy in support of aquatic ecosystem biotic assessments in the southwestern USA.



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What is SAFIT?

- We are also charged with promoting:
 - macroinvertebrate taxonomy and systematics.
 - research, education, training and professional development of our membership.



Why do we need SAFIT?

- Aquatic bioassessment is a primary tool of the regulatory agencies in measuring habitat health and water quality.
- Comparisons between bioassessment datasets are not possible without standardization; without data standardization the data become subjective.
- Therefore, it is paramount that taxonomic practices are standardized as they apply to bioassessment. Actions based on biological data require standards of comparability and repeatability.



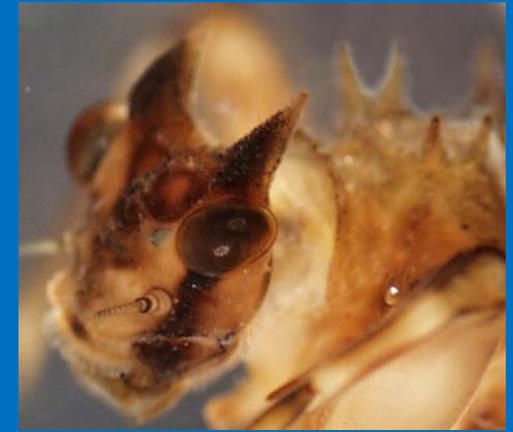
What region do we cover?

- California
- Nevada
- Arizona
- Utah
- Portions of Colorado and New Mexico west of the Continental Divide



Who is SAFIT?

- . . . All the cool kids!
- Invertebrate taxonomists
- Invertebrate ecologists
- Biologists
- Agency staff
- Consultants
- Regulators
- Land use managers



What does SAFIT membership offer?

- **Taxonomic data standardization**
- **Training and Workshops**
 - Taxonomic Workshops
 - Procedural Workshops
 - Collecting Trips
- **Information exchange**
 - Website
 - Email list
 - Quarterly Newsletter
 - Latest Literature Announcements
 - Employment and Business Opportunities
- **Participation required or recommended for most California bioassessment work**



What does SAFIT provide to the Bioassessment Field?

- The SAFIT Standard Taxonomic Effort List
- SAFIT Rules for the Development and Maintenance of the Standard Taxonomic Effort List
- In development: Standard Operating Procedures for Macroinvertebrate Identification



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STE Rules

Additions, corrections or deletions to the list may be submitted to the STE Committee at any time; however the submitted changes may not be addressed until the subsequent version (see section 2.6).

2.3 External review by taxonomic specialists

As a matter of practice, regionally or internationally recognized specialists in each taxonomic group should review the Standard Level of Taxonomic Effort List section pertaining to their specialty group. All recommendations must conform to the Rules presented in this document.

2.4 Criteria for inclusion of names in the STE

The STE Committee must use the established, peer-reviewed scientific literature in determining the categories and epithets to be included in the STE. All names must conform to the ICZN.

2.5 Format of the STE

2.5.1 Sections included in the STE. The STE shall include the title, the version designator that includes the date (e.g.; Version 3, 26 June 2006), the names of the compilers, a brief introduction identifying any important



Master Source File

Line #	Taxonomic Hierarchy										Habitat				Distribution									
	Phylum	Subphylum	Class	Subclass	Superorder	Order	Suborder	Infrorder	Family	Subfamily	Tribe	Genus group	Genus	Species group	Species	Benthic	Lotic	Lentic	Estuarine	CA	OR	WA	NV	AZ
2343	Ar	He	In	Pter	Tr	Integ	Rossianidae								X	X						X		
2344	Ar	He	In	Pter	Tr	Integ	Rossianic	<i>Rossiana</i>							X	X						X		
2345	Ar	He	In	Pter	Tr	Integ	Rossianic	<i>Ros</i>	<i>Rossiana montana</i>	Denning, 1953					X	X					X			
2346	Ar	He	In	Pter	Tr	Integ	Sericostomatidae								X	X			X	X				X
2347	Ar	He	In	Pter	Tr	Integ	Sericosto	<i>Gumaga</i>							X	X			X	X				X
2348	Ar	He	In	Pter	Tr	Integ	Sericosto	<i>Gun</i>	<i>Gumaga griseola</i>	(MacLachlan, 1871)					X	X			X	X				X
2349	Ar	He	In	Pter	Tr	Integ	Sericosto	<i>Gun</i>	<i>Gumaga nigricula</i>	(MacLachlan, 1871)					X	X			X	X				X
2350	Ar	He	In	Pter	Tr	Integ	Uenoidae								X	X			X	X	X	X		X
2351	Ar	He	In	Pter	Tr	Integ	Uenoidae	<i>Farula</i>							X	X			X	X				
2352	Ar	He	In	Pter	Tr	Integ	Uenoidae	<i>Farula</i>	<i>Farula davisii</i>	Denning, 1958					X	X			X					
2353	Ar	He	In	Pter	Tr	Integ	Uenoidae	<i>Farula</i>	<i>Farula geyseri</i>	Denning, 1989					X	X			X					
2354	Ar	He	In	Pter	Tr	Integ	Uenoidae	<i>Farula</i>	<i>Farula honeyi</i>	Denning, 1973					X	X			X					
2355	Ar	He	In	Pter	Tr	Integ	Uenoidae	<i>Farula</i>	<i>Farula jewetti</i>	Denning, 1958					X	X			X					
2356	Ar	He	In	Pter	Tr	Integ	Uenoidae	<i>Farula</i>	<i>Farula malkini</i>	Ross, 1950					X	X			X					
2357	Ar	He	In	Pter	Tr	Integ	Uenoidae	<i>Farula</i>	<i>Farula moweri</i>	Ruiter, 2003					X	X			X					
2358	Ar	He	In	Pter	Tr	Integ	Uenoidae	<i>Farula</i>	<i>Farula petersoni</i>	Denning, 1973					X	X			X					
2359	Ar	He	In	Pter	Tr	Integ	Uenoidae	<i>Farula</i>	<i>Farula praelonga</i>	Wiggins and Erman, 1987					X	X			X					
2360	Ar	He	In	Pter	Tr	Integ	Uenoidae	<i>Farula</i>	<i>Farula raineri</i>	Milne, 1936					X	X			X	X				
2361	Ar	He	In	Pter	Tr	Integ	Uenoidae	<i>Farula</i>	<i>Farula raineri</i>	Schmid, 1988					X	X			X	X				



Standard Taxonomic Effort List

Ephemeroptera: Mayflies

Standard Effort Level I: Genus

Standard Effort Level II: Species (where possible)

Standard Taxonomic Reference: Edmunds and Waltz (1996)

Reviewed by: Joseph Shusark

Nymphs can be identified to genus using the key in Merritt and Cummins (Edmunds and Waltz, 1996). Considerable reorganization of the baetid genera has taken place since the key was published (Lugo-Ortiz and McCafferty, 1998). A mayfly workshop was given by the Northwest Biological Assessment Workgroup in 2005. The manual created by Jacobus and Randolph (2005) serves as a very useful supplementary text with numerous provisional keys and unpublished distributional and habitat information for western mayflies. There are two useful websites on Ephemeroptera: Mayfly Central, hosted by Purdue University, maintains the Mayflies of North America checklist and has distributional information, and; Ephemeroptera Galactica, hosted by the Museum Collections of Aquatic Entomology at Florida A&M University, has a bibliography that offers many mayfly paper PDFs.

Taxonomic Hierarchy			Habitat				Distribution						Literature Cited	Comments	
Order	Family	Genus	Species	Benthic	Lotic	Lentic	Estuarine	CA	OR	WA	NV	AZ	Ball		
Ephemeroptera				X	X	X		X	X	X	X	X	X	Edmunds and Waltz (1996)	for keys to families and genera
	Ameletidae			X	X			X	X	X	?	X			
		Ameletus		X	X			X						Zloty (1996)	Not all species described as nymphs – best to leave identifications at Ameletus sp.
		Ametropodidae		X	X			X	X	X					
		Ametropus		X	X			X	X	X				Allen and Edmunds (1976); McCafferty (2001)	nymphs for both North American species are known and keyed in Allen and Edmunds (1976)
		Ametropus ammophilus	Allen and Edmunds, 1976	X	X			X	X	X					

Standard Taxonomic Effort List

- STE is a dynamic document not an edict
- Changes
 - Updates (new taxa, records, taxon changes)
 - Corrections
- Data standardization and stability



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What else is SAFIT working on?

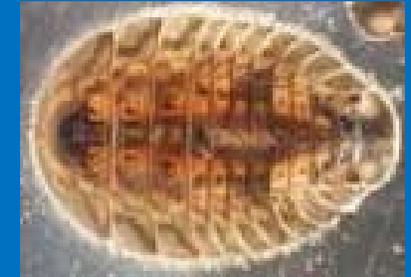
- Standard operating procedures for invertebrate identification.
- New taxonomic workshops and identification materials and aids, including:
 - Identification manuals,
 - Literature sharing, and;
 - Email list with taxonomic experts around the world.
- Centralized, verified reference collection
- Taxonomic Libraries.

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So, SAFIT:



- . . . supports aquatic bioassessment efforts of regulatory agencies in measuring habitat health and water quality, though educating the people making your invertebrate identifications;
- . . . standardizes taxonomic efforts so that bioassessment datasets are comparable and therefore useful across the southwest, and;
- . . . reduces subjectivity and elevates the quality of benthic macroinvertebrate data.





Thanks for listening!



To learn more or become a SAFIT member please visit our website:

www.safit.org



Special thanks to the SAFIT membership, Jeff Adams, and SWAMP